

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/016172

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ F16C32/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ F16C32/04

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho	1922-1996	Jitsuyo Shinan Toroku Koho	1996-2005
Kokai Jitsuyo Shinan Koho	1971-2005	Toroku Jitsuyo Shinan Koho	1994-2005

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	JP 2002-39178 A (Ebara Corp.), 06 February, 2002 (06.02.02), Fig. 1 & EP 1176325 A2 & US 2002/11754 A1	1,2 3,4
X Y	JP 7-12125 A (Shimadzu Corp.), 17 January, 1995 (17.01.95), Fig. 1 (Family: none)	1,2 3,4
X Y	JP 9-84214 A (Yaskawa Electric Corp.), 28 March, 1997 (28.03.97), Fig. 1 (Family: none)	1,2 3,4

☒ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"P" document published prior to the international filing date but later than the priority date claimed

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"&" document member of the same patent family

Date of the actual completion of the international search

21 January, 2005 (21.01.05)

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Name and mailing address of the ISA/
Japanese Patent Office

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X- A	JP 6-229419 A (Seiko Seiki Kabushiki Kaisha), 16 August, 1994 (16.08.94), Fig. 4 & EP 632209 A1 & US 5666013 A & DE 69414919 C	1 2-4
X A ✓	JP 10-70865 A (Ebara Corp.), 10 March, 1998 (10.03.98), Fig. 3 (Family: none)	1 2-4
X A	JP 8-145056 A (Ebara Corp.), 04 June, 1996 (04.06.96), Fig. 1 (Family: none)	1 2-4
Y ✗	JP 11-22730 A (Koyo Seiko Co., Ltd.), 26 January, 1999 (26.01.99), Claims 1 to 3 (Family: none)	3, 4